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TECHNICAL EDUCATIONAL FACILITIES
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FOREWORD

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COMPREHENSIVE COLLEGE

[The following is a translation of an article written by Pham Thanh Nguyet in Khoa Hoc Thuong Thuc (Popular Science), Hanoi, Number 21, 30 July 1960, page 5.]

Speaking of a comprehensive college in any nation, everyone thinks of it as "the literary face of the nation," or more distinctively, as the "heavy industry of colleges". This saying is well justified since a comprehensive college is a place where research and teaching of fundamental sciences are conducted. Moreover, the most important goal of the college is to prepare cadres for fundamental scientific research. The fundamental sciences must develop in order to bring about the conditions for other utilizable technological sciences to develop.

In our country at the present time, the number of cadres doing scientific research is very few. This is why the comprehensive college has an extremely important role. The responsibility of the college is to develop an advanced scientific knowledge in order to pass it on to research, to teaching, thus enabling the solution of problems concerning demands for scientific and technological development. At the same time, an army of scientific cadres, who will have the capabilities of performing such tasks, is established and built.

In responding to the above needs, the teaching contents of the comprehensive college cover the following three aspects:

On the aspect of ideas and politics: The school is concentrating on teaching the students the concept of life and the absolute revolutionary standpoint by teaching them Marxism-Leninism, and such courses as philosophy (dialectic materialism and historical materialism), political economy, and the problems of peace and socialism. At the same time, harmony is maintained between the courses and the practical participation under good guidance so that the students may attain a firm grasp of the policies of the party and current events.

On the cultural aspect: The students are given the most advanced and contemporary scientific knowledge. By thus doing, the college prepares them for independence research in scientific problems. At the same time, the school pays special attention to the students' experimentation in laboratories, research posts, enterprises and cooperative centers. For students of history, while studying ancient history, they must go out to actually explore the field, or they must take part in the studying of revolutionary foundations and of anti-aggression facts.

On the aspects of physical health: The students are guided in a program of physical education by cadres who teach physical education in the college; moreover, there are facilities for all students to participate in physical exercises.

After graduation, the students are separated for work in different scientific research organs. For example, students who graduate in social sciences are sent to the institutions of literature and history; those who graduate in mathematics will be sent to the institutions of mechanics, hydraulics or electrical studeis, or the institutions of statistics or atomic energy. Those graduating in physics will be sent to the institutions of electrical power, meteorology, etc., while those who graduate in biology will go to the divisions of bacteriology, oceanography, or to the divisions of agricultural cultivation or animal breeding. A number of students are sent to general and specialist schools to teach after graduation.

In order to meet the above demands and responsibilities, the school staff today has 145 professors and teaching cadres. This is four times the number when the school was first established four years ago (this number does not include cadres sent to friendly countries on teaching missions).

On specialized organizations, the school is comprised of two main divisions (the social sciences division and the natural sciences division), embracing seven departments with 30 sections and teaching over 80 courses on different fundamental sciences, including mathematics, physics, chemistry, zoology, botany, languages and history. Moreover, there is one Marxist-Leninist section which teaches political economy and philosophy, one section teaching physical education, two sections teaching foreign languages and translations of foreign-language literature, including Russian, Chinese, English and French literature.

There are at present 700 day students who study mathematics, physics, chemistry, zoology, botany, languages, and

history, and more than 400 night students who study literature, mathematics and chemistry. In a few years, the number of students will be increased, and the school will offer more of such courses as philosophy, geography and geology; the night courses will also be developed.

Concerning the school facilities, thanks to attention of the party and the government, and thanks also to the help of the fraternal countries, including the Soviet Union and China, a great number of the school laboratories were built in the most contemporary fashion, which meet the needs of students and cadres in research.

The school has obtained 21 research foundations doing research in physics, chemistry, biology, and Archeology, and one research post in "chi-ne". Some laboratories hold 100 students at one sitting. Many more research foundations are being built to provide the following students: chemistry, analytical geometry, analysis of elements, methods of measuring radiation, and studies of phonetics and languages. The school has also obtained a comprehensive library and eight small libraries, which belong to the different branches, with more than 70,000 books, 445 kinds of newspapers, periodicals (scientific and technological), and journals on history, literature and art. The school's comprehensive library has one reading room which seats about 200 students at one time.

In addition to the two large buildings used for lecturing and for offices, the school has also built two dormitories and a number of living quarters for cadres and students to live and study.

In the past few years, the school has obtained a great number of achievements in the work of scientific research and training of cadres.

In 1959, 215 students were graduated; this year, the school is organizing a second graduation in order to mobilize more graduates for the country's army of scientific cadres which grows larger every day.

Concerning the school's research projects, one most important project is to raise the quality of teaching programs in order to give the best service to teaching and thus to meet promptly the need for training cadres for the State.

In addition to the above projects, the school has even more valuable research projects in mathematics, physics, chemistry, biology, history and literature. These projects are most important as their goals are to meet the need of production development and foresighted political struggle. These projects also serve as a good foundation for the future research plans of the school.

In the drive for advancement of the socialist revolution, the demand for scientific and technological development is higher each day. There are now many scientific problems which are presented to the Comprehensive College for solutions.

Youthful friends, young students, all who would like to contribute their intelligence to science and all who would like to bring the capabilities and enthusiasm of youth to serve glorious socialism, the Comprehensive College in Hanoi is anxiously awaiting your cooperation.

POLYTECHNICAL COLLEGE

[The following is a translation of an unsigned article in Khea Hoc Thuong Thuc (Popular Science), Hanoi, Number 23, 30 August 1960, page 4.]

In October 1956, the polytechnical college in Hanoi celebrated the inauguration of its first school year. We are very proud of this fact because from that date, the Democratic Republic of Vietnam had a technological college. Furthermore we are very happy of the fact that at the end of 1959, more than 700 first graduates of the college joined the different organs, factories and other undertakings of industrial production, which were driving to realize the Three-year plan of economical and cultural development.

The responsibility of this college is to create superior technical cadres with sound scientific backgrounds, advanced technology, socialist consciousness and with good health.

Under the banner of the Party leadership, during the last four years, the polytechnical college has been constructed and continuously developed.

On the site where there are now Vietnamese school buildings, where there is still barbed-wire left from the camps of the French aggressive imperialist army after "Peace-Day", there are now many important facilities of the technical college with five main departments (mechanical, electrical and radio, alchemic mining, construction and chemical technology). Among these, there are 15 different professional branches.

To obtain a superior technological background, and in the future retention of methods of planning work and production plans for a factory or an enterprise, the students must study from 25 to 30 courses within four years (this will increase to five years). In this case, the college must organize to teach nearly 200 different courses, including various courses in the basic sciences, such as mathematics, higher physics and chemistry, and courses on professional technology. All courses are taught in Vietnamese. The political science courses, which include Marxism-Leninism and programs and policies of the Party, are taught in a system which relates to reality. Furthermore, there is a physical education course whose primary goal is to train male and female students to stay strong and healthy.

Many courses require laboratories with different kinds of facilities. Thanks to the help of the Soviet specialists, in addition to the spirit of independence of cadres and students, the school has built more than 40 laboratories and one factory which supplies needs. More buildings are being constructed for an additional 3,000 students and a school auditorium (with stage) to seat about 1,500 students. A tract of muddy land, where a stream from the To-lich River has been emptying, has been converted into a large athletic field, with all facilities, through the cooperation and labor of the students. The school library has over 20,000 books and periodicals in different languages: Russian, Chinese, German, English, French and many books on technology translated from Russian and Chinese into Vietnamese.

To undertake the teaching of so many courses to a great number of students, the strength of instructional cadres must be considerable also. In addition to cadres possessing a high level of technology and who had graduated in the Soviet Union and China, a number of experienced engineers, who had participated in production and industry, are today participating in teaching. The school is strongly applying the method of "half teaching and half creating", thus [some] cadres who have graduated at home and a number of good-grade students have been asked to participate in teaching. Today, the number of cadres who participate in teaching is over 300; naturally they are young and inexperienced, but thanks to their revolutionary enthusiasm, they are doing an excellent job, and slowly overcoming their own weaknesses.

The number of students increases every year, thus there were 800 students in the first quarter, and 600 each in the second and third quarters. In the fourth and fifth quarters, there are 1,200 students in each quarter. In the coming school year, there will be 3,500 day students and 400 night

students. Most of the night students are cadres and workers who cannot get away from their jobs in the day time. Among nearly 4,000 students, there is a relatively high proportion of cadres going to school and students whose backgrounds are those of workers and farmers.

A great number of students obtain scholarships or live at the school in order to have good conditions to study. Thanks to the zeal of studying and thanks to the fact that living conditions are well guaranteed, the number of students who pass each year is 80%; this year for example, 96% of the students passed their courses.

In executing the educational direction of the Party, i.e., "to apply study to work", the students and teachers do not hide themselves in the pages of books or behind the doors of laboratories. For books and laboratories are but theoretical, and practical work is really what counts. Therefore, at the end of each school year, teachers and students return to actual work in factories and mines. Here, the more experienced workers teach them practical methods. Moreover, students and cadres also participate in "socialist labor" in various construction and enterprises; they also go to farms to help fight droughts, or help farmers in harvest seasons. Thus, it is really by doing practical work that they can raise their standpoints, ideas, and opinions about labor, to serve the working class and the people without any conditions.

In addition to studying and teaching, cadres and students also engage in scientific research projects, such as topics assigned by the State Scientific Committee or enterprises: to study materials for furnace making, to build iron magnets, to make concrete out of black sand, etc. Research projects are beginning to show good results. In 1959, the polytechnical college received a Labor Medal of the Third Class. This reward marked the maturity of the school, besides being a source of great encouragement toward an even quicker and stronger development of the school.

Within the next two years, in the southern part of "Bay-mau" Park, there will be another polytechnical college which will be larger and more modern than the present one. The Soviet Union will help us in planning and preparing for this construction. The number of students will increase to over 5,000 and the number of cadres teaching will be over 500. Also in the future, the college will try to organize a system of research and teaching in order to train domestically specialists with the technological level equivalent to "Doctor of Philosophy Candidates" in order to meet in time the daily-increasing demands of our economical and

cultural developments.

In the drive of the total expansion of our Fatherland which is characteristic of industrialized socialism, the polytechnical college will contribute to the positive elimination of the technological lag while moving to the top of a scientific foundation in a progressive socialism.

INSTITUTE OF HYDRAULICS AND ELECTRIC POWER

[The following is a translation of an article written by Nguyen Minh Sang in Khoa Hoc Thuong Thuc (Popular Science), Hanoi, Number 25, 30 September 1960, page 3.]

The Institute of Hydraulics and Electric Power, one of the largest institutes belonging to the Department of Construction and the first established, is composed of the following: a high-school, a college, and a Research Institute of Science and Technology for Hydraulics and Electric Power.

The Institute of Hydraulics and Electric Power is the center of research in the sciences of hydraulics and electric power. It is also a place where technical cadres are trained, with high-school and college levels in hydraulics and electric power, so as to meet the needs of research in this field and where development and utilization of major water sources for hydraulics and electric power construction are initiated. By thus doing, the institute is able to popularize the utilization of hydraulics and electric power throughout the country, thus sharing in encouraging development of the country's agriculture and industry in order to continuously raise the people's living standards.

The responsibility of the Institute includes the training of engineers and technicians to attain good scientific backgrounds, advanced technology, good political standpoints and good health. Mainly speaking, in the training of students in this institute, formal methods are used; however, depending on the needs of given periods, semi-formal methods are also used in training. Often, for example, short-term courses are conducted so that more methods can be taught to leading cadres in the department. Furthermore, this institute seeks to solve important scientific and

technological problems presented by the actual construction involved in hydraulics and electric power, and to improve soil conditions by hydraulic means. At the same time, the institute investigates natural resources to serve the work of construction; in doing this the institute studies problems on scientific theories of hydraulics and electric power, so as to be able to conclude, utilize or popularize the most advanced experiences inside and outside of the country, especially those of our Party.

In executing the educational program of the Party, the work of the institute combines the following three aspects: teaching, scientific research, and labor-production.

The Institute of Hydraulics and Electric Power has risen from a high school, with 304 students in its first school year of 1957-1958, to today's enrollment of 2,400 students. Students are majoring in the following fields: hydraulic engineering, hydraulic electricity, irrigation, surveying, etc.. There are 44 different courses all together (two new courses are to be conducted in the future--construction and electricity).

Concerning the school campus, the Institute of Hydraulics and Electric Power is being built near Dong-Da (Hanoi); it will be completed by the end of 1961. The area on which the institute is built is over 23 hectares; it is divided into seven zones, each of which is reserved for a different purpose: research, teaching in lecture rooms and laboratories, students' living quarters, living quarters for cadres and members of the institute; administrative work, library and school auditorium; medical sciences, and for physical education (includes a swimming pool, athletic field and physical exercise room). There is, in addition, a factory for the production and repair of machinery and equipment used in teaching and research.

The science library of the institute obtains all documents, books, newspapers and periodicals on hydraulics and electric power in every country; there is a reading room which has all the facilities to meet cadre and student needs in studying and research. The school auditorium has a stage with an area of 3,360 square meters and is large enough to hold 2,500 students at once.

To maintain the program of teaching, studying and experimenting, and of scientific research for the present students and for the 3,300 more to come, the institute is planning and preparing to build 19 more laboratories. There will be a number of courses taught in large lecture rooms, in which there is to be enough space for both teaching and projecting of films concerning the lectures.

The institute will have seven different research laboratories, with the step-by-step preparation of contemporary equipment through the help of China, and one open-air laboratory with an area of seven hectares. Moreover, the research institute has a system of central water supply and will build river hydrological stations in areas of the plain regions, midlands, mountainous regions and in a number of large construction units in order to seek ways of improving present theories and to solve problems involved in the needs of advanced production.

In past years, to overcome the shortage of teaching cadres, the school trained and at the same time created teachers with the help of specialists. The number of teaching cadres has risen from 14 to today's 107 in both the college and high school.

Every year, cadres and students of both college and high school go out and participate in practical production in all construction units, so that they can practice what they have learned, thus strengthening their knowledge of methods learned in school. Furthermore, they participate in drought prevention organizations or help build local hydraulic centres. They also participate in socialist labor production in all construction units. This actual practice has been of great use for the fortification of the students' standpoints, ideas and opinions on serving both industry and agriculture of the country.

In scientific research, cadres and students have begun to participate in research projects and programs established by the Ministry of Hydraulics and Electric Power and by the State Science Committee. Such research projects include studies on methods of testing the composition of iron, concrete, wood and bricks; the possibility of transporting muddy sand from the canals in the plain regions; and the composition of concrete used in hydraulic construction for stabilizing the Red River in Hanoi. These research studies also include the improvement of teaching quality, etc. A number of research projects have already gathered preliminary results.

Facing the urgent demand for healthy development of socialist agriculture and industry, plans for hydraulization and utilization of electricity throughout the nation have necessitated the rapid development of the Institute of Hydraulics and Electric Power. All friends, who love science, research and who would like to bring their enthusiasm and intelligence to contribute to the reform and conquering of nature, to make nature serve human beings, to eliminate floods completely, to bring home the flow of water in order to irrigate the young and beautiful rice fields, to bring electricity to brighten our cities and villages...have faith, for the Institute of Hydraulics and Electric Power is creating positive conditions so that you may realize your beautiful hopes.